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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,721	01/10/2001	Ursula Murschall	00/001 MFE	8369

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ProPat, L.L.C.
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EXAMINER	
UHLIR, NIKOLAS J	
ART UNIT	**PAPER NUMBER**
1773	8

DATE MAILED: 05/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

T.D-8

Office Action Summary	Application No.	Applicant(s)	
	09/757,721	MURSCHALL ET AL.	
	Examiner	Art Unit	
	Nikolas J. Uhlir	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-18 is/are pending in the application.

4a) Of the above claim(s) 18 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-17 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Claim 18 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 7.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 2, 4, 6, 8-11 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakos et al. (US6251505) in view of Oishi (US5936048) et al.

4. The limitations "pre-dried masterbatch having a vacuum pressure of less than 80 mbar at 130^0C" in claim 1, "pre-dried masterbatch" in claim 2, and "pre-dried masterbatch is further dried with stirring, to a lower vapor pressure, where the vaccum pressure is less than 50 mbar at 130^0C" in claim 3 are product-by-process limitations and appear not to be further limiting in so far as the structure of the product is concerned. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is

unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113. This is also true for the limitations present in the entirety of claim 13.

5. Rakos et al. teaches a composite multilayer film comprising a primary unfilled polyester film layer and a secondary polyester layer containing 1-8% by weight of finely divided silica particles. These particles have a diameter of 2.3 to 6.2 microns (abstract). This film is preferably made from polyethylene terepthalate (column 4 lines 33-35). This film may be uniaxially/biaxially oriented or unoriented (column 4 lines 40-41). Secondary layers of polyester can be layered on one or both sides of the primary layer. The total thickness of the film is between 50-250 microns (column 5 lines 16-22). The silica particles used as the filler material should not have a diameter greater then 13 microns. The film should not contain greater then 8% by weight of silica particles, as an excessive amount of small particles can result in the film having unacceptable haze and light transmission (column 5 lines 38-55). Additionally, Rakos et al. teaches that the layers of the film may contain any of the additives conventionally employed in the manufacture of polyester films. Examples are pigments, dyes, lubricants, anti-oxidants, antiblocking agents, gloss improvers, optical brighteners, and ultraviolet light stabilizers (column 6 lines 42-55). It is preferred that the primary layer of polyester contains little or no filler so as to maintain optimum optical properties (column 5 lines 53-56). Additionally, the composite film may be coated on one or both sides with one or more adhesion promoting coatings (Column 6, lines 61-62). In the examples, Rakos et al. discloses a number of formulations for films comprising 2 layers of polyethylene

terepthalate. In example 1, the primary film is unfilled, and the secondary layer contains 5% by weight of silica particles. The composite film was 175 microns thick. This example had a luminescent transmittance of 50% (Column 7 example 1). In example 3, the primary layer was unfilled, and the secondary layer contained 7.5% by weight of silica particles. The composite film was 100 microns thick and had a luminescent transmission was 50% (Column 9, example 3). In example 2, the primary layer was unfilled, and the secondary layer contained 4% by weight of silica particles. The composite film was 178 microns thick and had a luminescent transmission of 70% (Column 8-9 example 2). Although Rakos et al. does not teach a film with a luminescent transmittance of 80% or higher, it is logical to believe that the transmittance is a function of film thickness and silica particle loading as demonstrated above. Rakos et al. allows for the silica particle loading to be as low as 1% by weight (described above). Therefore, one with skill in the art could formulate a composition with the required transmittance. Further, because the transmittance can be controlled, the haze of the film can also be controlled. If the film were made with of a composition resulting in a transmission of 80% or greater, the haze would necessarily be below 20%. This is because the sum total of transmission, absorption, and reflection must equal 100%. If the transmission is 80% the haze is inherently below 20%. Additionally, although Rakos et al. does not specifically teach a level gloss for this film, it does teach the use of gloss enhancing agents (as described above). Therefore, the film could be made to have the gloss required with the addition of these additives. Finally, Rakos et al. teaches that the film could incorporate optical brighteners (described above), the use of which would allow

the desired yellowness index to be achieved, particularly if the film was modified with an ultraviolet stabilizer. Although Rakos et. al doesn't teach the use of specific amounts of these additives, it is logical to believe that the addition of larger quantities of these additives would result in a film having the desired gloss, yellowness and transparency.

6. Rakos et al. does not explicitly teach the incorporation of a soluble flame retardent in the interior or exterior layer of a multilayer film.

7. Oishi et al. teaches a method for preparing a modified polymer resin (title). These polymer resins include polyester such as polyethylene terephthalate (Column 17, lines 43-45). Oishi also teaches that in addition to a modified resin additive, an additive such as dimethyl methylphosphonate may be added to a resin to provide that resin with flame retardent properties (column 21 lines 4-11). Typically this flame retardent is added in an amount of 5-40% by weight (Column 23 lines 47-48).

8. Therefore it would have been obvious to one with skill in the art at the time the invention was made to incorporate 5-40% by weight dimethyl methylphosphonate as described by Oishi et al. in the multilayer film (preferably the secondary layer) described by Rakos et al.

9. One would have been motivated to make this modification due to the increase in flame resistance of the film one would expect to see as a result.

10. Claims 2, 5, 7, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakos et al. in view of Oishi et al. as applied to claims 1 and 8 above, further in view of Peiffer et al. (US6280833)

11. Rakos et al. as modified by Oishi et al. stated above meets all of the limitations for claims 2, 5, 7, 11, and 12 except for those listed below.

12. Rakos et al. does not teach the incorporation of phenolic stabilizers, metal stearates, or metal/alkaline earth metal stearates/carbonates as a hydrolysis stabilizer in a multilayer film. More specifically Rakos et al. does not teach adding .1-1% by weight of a hydrolysis stabilizer to a multilayer film.

13. Peiffer et al. teaches common additives which can be used as stabilizers in many polymers. These include phenolic stabilizers and metal/alkaline earth-metal stearates or carbonates (column 8 line 36-48). These materials are typically used in an amount between .05 and 2% by weight.

14. Therefore it would have been obvious to one with skill in the art at the time the invention was made to incorporate .05-2% by weight of a phenolic stabilizer or metal/alkaline earth-metal stearates or carbonate as described by Peiffer et al. to the multilayer film described by Rakos et al. and modified by Oishi et al. The metal/alkaline earth-metal stearates are known to improve processability by acting as a lubricant during extrusion processes, and phenolic stabilizers are well know additives to prevent discoloration.

15. One would have been motivated to make this modification due to the increased processability of the film and the increase in discoloration resistance one would expect to see.

Response to Arguments

16. Applicant's arguments filed 4-22-02 have been fully considered but they are not persuasive. Regarding the product by process citation above, the applicant in the amended claims 1-3 requires "A transparent polyester film comprising a pre dried masterbatch" having a specified vacuum pressure at 130^0C. The applicant here is requiring that the masterbatch, prior to casting/extruding of the film, is predried to a specific level under vacuum. The applicant in the specification has not shown the criticality of the drying step to the performance of the polyester film. The example cites 3 examples in compliance with the invention as claimed, and one comparitive example on pages 13-18 of the specification. The 3 compliant examples show the effects of different layer thickness and additive concentration on the performance of a film which is formed from a predried masterbatch. The comparitive example demonstrates the performance of a film formed from a pre-dried masterbatch, wherein the film contains no additives. The comparitive example is cited as not passing DIN 4102 parts 1 and Part 2, and UL 94. No example is provided demonstrating that the performance of a polyester film formed from a masterbatch that is not dried is any less effective then a film formed from a dried masterbatch. The applicant cites page 7, paragraph 5 of the specification as establishing the necessity of having a dried masterbatch. This paragraph recites "During production of the film it was found that the low-flammability film can be produced using masterbatch technology and special pre-drying and/or precrystallization of the masterbatch." This paragraph does not state that a masterbatch that is not dried does not perform as well as a dried masterbatch. Thus, this paragraph does not establish the criticality of the drying step to the performance of the film. Thus, the requirement that

the masterbatch be pre-dried prior to film formation is a product by process limitation. Further, regarding the rejection of claims 1-17, the applicant made the following arguments:

- Oishi et al. teaches that phosphorous compounds can exert "a synergistic effect that a flame-retarding effect can be further improved." The synergistic effect works in the presence of compound B, given in Col. 8, lines 21-40. However, it is highly doubtful compound B would be useful in a transparent film, as it is probably colored. The applicant does not teach that norbornenyl triazinyl is required for flame stability. Further, neither Rakos nor Oishi teach concentrating the flame retardent in the out layer of a a colored extruded film.

17. This argument is not persuasive. Regarding the addition of compound B to the film, the applicant is referred to claims 1, 6, 8 and 9, wherein the applicant recites the term "comprising." The courts have established that the term "comprising" is an open term, and allows for additional components to be included along with the required elements specified. Regarding the applicants argument that the addition of compound B to the polyester film, the applicant is referred to claim 1, which requires a **transparent** polyester film. The term "transparent" is defined by Websters Collegieate dictionary 10th edition 1998 as "having the property of transmitting light without appreciable scattering so that bodies lying beyond are seen clearly." "Transparent," does not require that the film be "colorless" as a colored film can still meet the definition of transparent. Further, claims 14-17, which state the optical requirements of the invention are dependent on claim 1, and thus do not require a flame retardant. Thus, the applicants argument is moot regarding these claims. Regarding the addition of the flame retardent to the outer layer of the film. The applicant is directed to the portion of this and the prior office action, wherein the examiner states, "additionally, Rakos et al. teaches that the layers of the film may contain any of the additives conventionally employed in the manufacture of

polyester films. Examples are pigments, dyes, lubricants, anti-oxidants, antiblocking agents, gloss improvers, optical brighteners, and ultraviolet light stabilizers (column 6 lines 42-55). It is preferred that the primary layer of polyester contains little or no filler so as to maintain optimum optical properties (column 5 lines 53-56)." This clearly shows that additives can be added to **any** layer in the multilayer film taught by Rakos. The applicant in claims 8-10 requires a film comprising a base and an outer layer, wherein .5-30% by weight of a flame retardent is present in the outer layer. Oishi teaches adding 5-40% by weight of dimethyl methyphosphonate to a polyester material in order to improve the flame resistance of the polyester. Thus, based on both the teachings of Rakos and Oishi, one would have been motivated to add the required amount of stabilizer to any or all of the layers in Rakos.

- The examiner cites Peiffer as a reference teaching common additives which can be used as stabilizers in many polymers. These stabilizers include phenolic stabilizers and alkaline earth-metal stearates or carbonates. The Peiffer stabilizer system is designed to be used with polypropylene, which has a significantly lower melting temperature then PET, and is not subject to hydrolysis.

18. This argument is not persuasive. Peiffer clearly states that the stabilizers cited can be used in ethylene polymers and propylene polymers (see column 8, lines 36-37 of Peiffer). "Ethylene polymers" encompasses polyethylene-terephthalate, and thus there is motivation to add these stabilizers to a PET system. The examiner acknowledges that Peiffer is directed towards a modified polypropylene film; however, this reference is merely cited to establish that it is known in the art to add stabilizers of this type to ethylene polymers.

- Claims 1-3 have been amended adding criteria further defining a dried masterbatch. The specification teaches that a substantive factor for the invention is that the masterbatch which

comprises the flame retardants, is pre-crystallized or pre-dried. Rakos and Oishi do not teach the utility of such a rigorous drying process. Hnce, claims 1-17 overcome the 103(a) rejection.

19. This argument is not persuasive. The applicant is referred to the beginning of this section, which address that the pre-drying step is a product by process limitation, and has not been established as critical to the performance of the polyester film by the specification.

Conclusion

20. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhlir whose telephone number is 703-305-0179. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on 703-308-2367. The fax phone numbers

for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

23. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0389.

nju
May 17, 2002

Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700